Entrepreneurship in Post-Reunification Germany: An Economic and Social Analysis

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Senior Honors Thesis in Economics

May 1, 2014

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EC498: Senior Honors Thesis

Spring 2014

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I. Introduction

a. Historical Background

On November 9, 1989, a new era of German history began when East German official Günter Schabowski announced that citizens of the German Democratic Republic, or East Germany, could now visit West Germany and West Berlin. After more than twenty-six years of partition that had begun in August 1961, the fall of the Berlin Wall represented major political, economic, and cultural shifts for the nation. According to Hans Dietrich Genscher, Foreign Minister of the Federal Republic of Germany, or West Germany, at the time of Reunification, "The will of the people prevailed over the old rule. Yet this revolution was taking place without violence, without bloodshed. This phenomenon is specifically what remains the accomplishment of people in East Germany. They have enriched all Germans" (Genscher 1995:291).

On October 3, 1990, German unity was established as the German Democratic Republic (GDR) ceased to exist and was assimilated into the Federal Republic of Germany (FRG). The Federal Republic gained full sovereignty over the formerly-socialist occupied territories, and its laws replaced those of the former GDR with the government now under the authority of the Federal Republic (Turner 1992: 252). Germany was officially unified once again.

Yet, the economic upheaval caused by German Reunification also caused many ripples through society. Merging a booming capitalist economy and a faltering socialist system presented numerous challenges, but also increased opportunity for foreign investment and production capabilities. As Shawn Tully wrote for *Fortune Magazine* in 1990 following Reunification, "In the long term, the economic payoff ought to be

enormous. Western capital and expertise combined with East Germany's skilled, inexpensive work force should result in a thriving West German-style industrial base and a consumer market stretching from the Elbe to the Baltic" (Tully 1990: 21).

While this optimistic view does not portray the economic realities of the 1990s in an entirely accurate manner, Reunification undoubtedly provided new opportunities for business development and entrepreneurship. As the Eastern *Ostmark* currency was absorbed into the Western *Deutschmark* in a 1-to-1 ratio despite its drastically lower value, a policy of investment and modernization was pursued throughout the nation and especially in the former Eastern territories. As cultural perceptions and human capital began to change in the reunified Germany, so did employment decisions, including those surrounding business creation and entrepreneurship.

b. Topic Introduction and Hypotheses

This paper will seek to determine the effects of social and human capital on entrepreneurial activity in Germany from 1986 to the present, using self-employment variables as empirical proxy measures for entrepreneurship and entrepreneurial activity. This research was initially motivated by informal conversations in the summer of 2012 with Dr. Dorothea Schäfer at the Deutsches Institut für Wirtschaftsforschung (or DIW Berlin, The German Institute for Economic Research) and Dr. Ulrich Kohler at Wissenschaftszentrum Berlin für Sozialforschung (or WZB, The Social Science Research Center of Berlin).

At DIW and WZB, I informally began my personal inquiries into the socioeconomic transitions of Germany in the post-Reunification period. As a society and economy, Germany has undergone revolutionary transitions for much of the twentieth

and twenty-first centuries, with some of the greatest transformations coming in the past thirty years after the fall of the Berlin Wall. With Germany serving as one of the key players in mitigating the effects of the Eurozone Crisis, it is useful to determine how the nation rose to this point of prominence following the difficulty of merging capitalist and socialist economies in the early 1990s. Dr. Schäfer highlighted the 2006 FIFA World Cup hosted in Germany, which coincided with a renewed global focus on German growth and policy. Since then, she classifies Germany's stable growth, politics of austerity, and comparatively stable output following the global financial crisis as reasons for Germany's rise to prominence in the twenty-first century.[1]

Furthermore, Dr. Kohler elaborated upon the German welfare state, as well as education and immigration policies, to discuss differences between the American and German systems. He highlighted specific initiatives designed to mitigate spikes in unemployment and layoffs with a type of government-sponsored "wage insurance" for businesses. Additionally, he highlighted the welfare system as an important facet of support for groups such as single parents, the elderly, and the ill.[2] Despite Germany's successes, shortcomings such as immigrant integration, particularly within Turkish communities, and modernization of educational standards require continued improvement for further socioeconomic development.

The case of post-Reunification Germany is a fitting environment in which to study entrepreneurship, as the fall of the Berlin Wall led to an unanticipated, large-scale restructuring of a diverse society. Subsequent Reunification of Germany less than one

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[1] Information provided based on informal discussions with Dr. Dorothea Schäfer at DIW Berlin, July 2012.

[2] Information provided based on informal discussions with Dr. Ulrich Kohler at WZB Berlin, July 2012

year later required a shift to a combined market economy of the former East and West. This research therefore will synthesize how this event and subsequent adaptations and societal changes have molded entrepreneurial tendencies, with a particular focus on the social and cultural characteristics of individuals. Discussions of capitalist Western and socialist Eastern economic integration will demonstrate how individuals' characteristics, educations, social ties, personality traits, and backgrounds differed, as well as how they have changed over time.

Drawing on previous inquiries into entrepreneurship in Germany and former-socialist nations, my hypotheses are that entrepreneurs in Germany are more likely to be male, between the ages of 25 and 45, and unemployed in recent years. I then expect the importance of social ties to cause a great deal of variation in individuals' self-employment propensity. Additional dimensions of social and human capital will likely play a role in self-employment and entrepreneurial activity. I expect those households and individuals with social ties to other parts of Germany to have a higher probability of self-employment and entrepreneurship due to their increase in social capital, and I also predict that categories such as job history, parental occupation and relationships, and personality characteristics, such as political leanings or risk aversion, will also impact these employment decisions.

II. Literature Review

The underlying socioeconomic basis for my research question comes from Pierre Bourdieu's conception of the three forms of capital. Bourdieu (1983) separates capital into the economic, social, and cultural dimensions, all of which require time expenditures

to accumulate and have the capability to produce profits once amassed. Economic capital is that which is directly convertible to money and can be institutionalized as property rights, but additional differentiation can be drawn from the accumulation of cultural and social capital. Cultural capital includes the embodied state, defined as dispositions of the mind and body, as well as access to objectified cultural items (i.e. books, instruments) and the effects of associated institutions (i.e. universities, employers). Cultural capital is generally linked to family and upbringing, and can explain inequalities in academic achievement by children from various socioeconomic strata (Bourdieu 1983: 241-243).

Furthermore, Bourdieu defines social capital as the "aggregate of actual or potential resources which are linked to a durable [and institutionalized] network… which provides each of its members with the backing of the collectively-owned capital." Examples of social capital include various credentials such as degrees, titles, family name, or affiliation with a socioeconomic class, all of which determine an individual's social standing and the impact, legitimacy, and support for his or her undertakings (248-250). Social capital therefore has important implications for entrepreneurial tendencies, as it can determine one's network, mentorship, and investment opportunities.

Glaeser *et al.* (2002) describe accumulations of social capital as consistent with standard economic investment models, with investment and accumulation decreasing with age, physical distance from networks, travel costs, and greater mobility, the later of which decreases investment because of a more transient social structure. Investment and accumulation contrastingly increase with certain occupation types, homeownership (and therefore lowered mobility), and ease of communication. Glaeser *et al.* highlight the nuanced and specific conditions that impact an individual's social capital accumulation.

In particular, a study in Germany by Knies (2009) references the investment model of social capital, describing that residential mobility has caused the biggest decline in neighborhood social ties. He also cites a unique cultural norm in Germany that causes one to keep their neighbors distant and avoid close contact when possible. Despite improved communication technologies, this finding holds important implications for the future of entrepreneurship because it calls into question how virtual ties will mitigate the loss of residential neighborhood ties, as well as what role the internet will play in future development.

This investment model of social capital, along with Jackson *et al.*'s (2012) findings on the importance of social capital for structuring and enforcing behaviors within a network, indicate that accumulation of social capital is an important determinant of these employment choices. As Jackson *et al.* assert, support is a characteristic of networks that "emphasizes social structure's role in the enforcement of behavior" (1889). Rauch (1999) also applies this theory of networks to international trade, discussing how a networked view of international trade adds important considerations of "personal contacts and relationship-building in determining the geographic distribution of economic activity" (33).

Researchers have begun to apply such theories of social capital and networks to the cases of partitioned and reunified Germany to determine how social connections influenced development policy and income trends. Redding and Sturm (2008), for example, evaluate the costs of geographic remoteness following the establishment of the permanent border between East and West Germany. After controlling for the level of wartime destruction in West German border cities, their findings indicate that cities in

close geographic proximity to the newly constructed border saw a decrease in population. This effect was especially pronounced in smaller cities and was shown to be causally linked to a loss of market access and the spatial distribution of economic activity, demonstrating the cost of remoteness (1794).

Hunt (2006) continues the discussion of migration, focusing on wages and unemployment as reasons for East to West migration in the Germany-specific case. She describes that the huge wage increases in the East from 1991 to 1994 explain half of the migration decreases from the East for that time period, and they explain 85 percent of the migration decreases for the young. Nevertheless, subsequent stagnation of Eastern wages in comparison to Western wages sparked increased emigration flows. Overall, she finds that young college graduates are five times as likely to emigrate in comparison to others in their age cohort, showing that determinants of social capital and economic mobility depend on age, education level, and the strength of ties. Additionally, Melzer and Muffles (2012) use reunification as a "natural experiment" in which to analyze changes in subjective well-being (SWB) for those moving from Eastern to Western Germany after 1989. Those migrating from East Germany started with lower levels of SWB, which did improve after migrating to the West. Yet they generally remained less satisfied in comparison to Western Germans who did not migrate. Such characteristics of migrations and displacements therefore have further impact on employment and entrepreneurial attitudes.

Perhaps most critical for the development of this paper's research question is a recent study by Burchardi and Hassan (2013) concerning entrepreneurship and social capital. Burchardi and Hassan test their hypothesis that West Germans with social ties to

the East had a comparative advantage following Reunification because of their connections allowed them to capitalize on the new eastern sector of the economy. Using a model constructed from the G-SOEP data set (see Methodology section for further details), they demonstrated that West German households with ties to East Germany, in comparison to those with no similar ties, saw on average a 6.7 percentage point increase in income growth in the six-year period following German reunification. A caveat to this finding was that the income of entrepreneurs with ties to the East rose by four times as much as that of non-entrepreneurs in the same time period (1260-1267). Therefore, while Burchardi and Hassan demonstrate the importance of social ties for economic prosperity, they also show that this social capital is of even greater importance for entrepreneurs, supporting the hypothesis that personality traits and socialization of individuals will impact their entrepreneurial tendencies.

Entrepreneurship itself has been a much-studied institution globally and in post-Socialist Eastern Europe, with a large literature focusing on how development and self-employment trends have played out since the fall of the Iron Curtain. In analyzing the characteristics of nascent entrepreneurs in general, Delmar and Davidsson (2000) compare the American and Nordic economies to analyze how economic systems affect entrepreneurial attitudes. They find that entrepreneurs are less prevalent in Sweden than the US, citing factors such as size and industry composition of the private sector, wage dispersion, taxation, and welfare as potential reasons for these differences. Interestingly, they also found differences between entrepreneurial attitudes in Sweden and Norway, and cited differences in the business-size distribution in the countries as a potential cause.

Their study demonstrates the importance of the surrounding social, economic, and firm structures for the development of entrepreneurial attitudes.

In an empirical analysis of entrepreneurship in the United States, Evans and Leighton (1989) use the National Longitudinal Survey of Young Men and the Current Population Surveys to report a number of key findings about entrepreneurial determinants. They find that the probability of departing from self-employment decreases with the duration of self-employment (i.e. those self-employed for longer periods are less likely to leave self-employment), the fraction of the labor force who is self-employed increases until age 40 and then remains constant until the retirement years, and those who switch to self-employment are more likely to be males, have greater assets, be poorer wage workers, and have an internal locus of control. Blanchflower and Oswald (1998) also highlight financial and liquidity constraints faced by American entrepreneurs, showing that inheritances greatly increase the chances of engaging in entrepreneurial activity. Their study also shows that many individuals in industrialized nations report that they would rather be self-employed, and self-employed individuals are often more satisfied. But many cite shortage of capital and money as a reason for not making a switch to self-employment. Capital access, labor market experience, and personality traits have thus been established as general factors that determine the self-employment decision.

Another American study by Fairlie and Robb (2007) highlights important human capital dimensions in determining entrepreneurial tendencies and small business venture success. Using data from the Characteristics of Business Owners Survey, they found that more than half of business owners had a self-employed family member, and they

conclude that similarities across family members in entrepreneurial preferences may explain part of this relationship. If family members in fact influence human capital development and self-employment tendencies, this could be noteworthy in the German case. Particularly, Fairlie and Robb find that having worked in a family member's business has large, positive, and statistically significant effects on business success metrics. In the case of the German Democratic Republic under socialist rule, an entire generation of potential entrepreneurs would not have had access to such opportunities, which could be reflected in the successes of their business ventures after Reunification.

Caliendo *et al.* (2009) expand on this body of entrepreneurship literature that studies American markets and look at personality factors of the entrepreneurial decision by using the SOEP data panel. They investigate how risk attitudes affect the decision to become self-employed, demonstrating that those with lower risk aversion have a significantly higher entrepreneurial probability. Interestingly, they find that this relationship holds only for those active in the labor force at the time of the survey, with no significant impact of risk attitudes on the entrepreneurship decisions of unemployed or inactive persons.

This indicates that previous labor market status is an important indicator of transitions to self-employment, and also expands on previous research as it finds that risk attitudes are not necessarily an individual trait constant throughout life. As Tyson *et al.* (1994) explain, many in former Socialist states lacked experiential business knowledge, social motivations for entrepreneurship, and a sense of trust in the shifting economic system. In order for governments and firms to successfully promote entrepreneurship in

post-Socialist cultures, they must understand the increased complexity of labor division and the management techniques needed to mitigate it.

Focusing in on East Germany and the potential ramifications of nearly half a century of Soviet rule, Alesina and Fuchs-Schündeln (2007) analyze the effects of Communism on individuals' preferences, also using G-SOEP data. Their regression analyses show that the differences in preferences between former East and West Germany with respect to migration, transfer programs, and government involvement are largely attributed to direct effects of Communism. The question therefore becomes how to promote new social programming in East Germany, which would stimulate entrepreneurship and labor market innovation. Indigenous Endogenous Institutions, defined by Botteke *et al.* (2008) as those designed by individual agents pursuing their own ends without influence by governments or entities exogenous from the market, demonstrate the most potential for sustainable development programs. This stresses the importance of development programs that are created by those whom they will serve, which shows the potential effectiveness of entrepreneurship and start-ups for meeting societal needs.

Based on the large body of literature that analyzes the importance of surrounding social and economic characteristics on entrepreneurial attitudes, there is valid support that nascent entrepreneurial activity on the eve of economic transition (i.e. 1989-1990 in the former East) had a positive effect on startup activity after the introduction of the market economy, as described by Wyrwich (2012). He defines an entrepreneurial heritage as "a legacy of industrial and regional culture that favors self-employment," and shows that

such entrepreneurial heritage is a regional characteristic that influences startup activity, even in a transitional context (441).

In the German context, it has been demonstrated that new business formation has more of an impact on employment growth in areas with a higher density of economic activity, and that region-specific knowledge capital and spillovers impact the characteristics of regional innovation (Fritsch and Mueller 2008; Fritsch 2004). After the fall of the GDR, Fritsch and Ruskova (2012) explain, East Germans have shown reluctant attitudes towards self-employment. They explain that socialist propaganda had a negative effect on the transfer of entrepreneurial attitudes between generations for East Germans, especially for those highly educated in the GDR system. This parental disruption of role models within the former GDR can likely explain why self-employment levels in former Eastern states only equalized with Western states fifteen years after Reunification.

Runst (2011) echoes similar ideas about transmission of entrepreneurial attitudes in a post-Socialist culture, discussing how individuals in planned economies develop certain beliefs and preferences. While attempting to explain the gap in self-employment in former Eastern and Western states after Reunification, Runst argues that "traditional" determinants of self-employment (i.e. credit constraints, human capital, adverse selection) cannot fully explain the east-west gap. He asserts that the unique socialist history of East Germany was another factor that influenced self-employment rates and entrepreneurial attitudes.

In the 2012 Global Entrepreneurship Monitor (GEM) country report for Germany, Sternberg *et al.* (2013) report that 5.3 percent of adult Germans were either nascent entrepreneurs or owners or managers of young businesses, defined as those no more than

three and a half years old. Gender disparities in entrepreneurship that have been reported in other nations are also seen in Germany, with a Total Early-Stage Entrepreneurial Activity (TEA) rate at 7.2 percent for German men but only 3.5 percent for German women.[3] While the rate for men has been rising constantly since 2008, the rate for women has stagnated. German entrepreneurs are more likely to cite the desire to pursue a business idea (4.1 percent) than the lack of alternative employment (1.2 percent) as the reason for a transition to self-employment. Furthermore, German entrepreneurs often have social connections to other entrepreneurs, live in high-income households, launch businesses to exploit market opportunities, and concentrate their endeavors in the high-tech sector. Overall, the view of the entrepreneurial scene in Germany, as conveyed by the GEM, is positive. 35 percent of the interviewees stated that they saw good opportunities for entrepreneurship. However, only 37 percent believe they would have the necessary skills and experience to launch a business, highlighting a discrepancy between the opportunities and training or education.

An additional GEM report by Brixy *et al.* (2013) discusses business startups by migrants in Germany.[4] While migrants are often assumed to be less risk-averse and more self-assertive because of their decision to move and begin a new life and career, this is not the case in the German migrant sample. Germans in the GEM survey showed a pronounced fear of failure when setting up a business that is starker than in other countries. But immigrants to Germany have just as high of risk-aversion as the local

[3] The Global Entrepreneurship Monitor by Sternberg *et al.* (2013) defines the Total Early-stage Entrepreneurial Activity (TEA) rate as the "rate of individuals in the working age population who are actively involved in business start-ups, either in the phase in advance of the birth of the firm (i.e., the payment of any wages for more than three months) or the phase spanning 42 months after the birth of the firm."

[4] The GEM IAB by Brixy *et al.* (2013) defines migrants as those "who state they were not born in the country in which the survey was carried out. … Foreign citizens who were born in the country where the survey is taking place with are dealt with as nationals."

population, especially if they are not experienced in dealing with German administrative procedures which can be difficult for migrants. Migrants to Germany are less likely to think they have the necessary knowledge for starting a business, and specific trades often require qualifications which are difficult to obtain outside of Germany, putting migrants at a comparative disadvantage.

In general, Brixy *et al.* (2013) find that migrants are only approximately one percentage point more likely to start a business than the local Germans. Both migrants and locals with university educations are more likely to start businesses. Overall, this report shows the importance of migrants who present themselves as entrepreneurs (as opposed to dependent employees) and who can therefore make important economic development contributions to Germany. The authors view migrant entrepreneurship in Germany as a way to use skills and knowledge that are not generally recognized or sought out in Germany. Such a paradigm shift could create new employment opportunities for future migrants.

In addition to the GEM reports, numerous authors have also evaluated the state of contemporary entrepreneurship in Germany. Bergmann and Sternberg (2007) use data from previous waves of the GEM survey to discuss the changes in entrepreneurial activity and attitudes in the early twenty-first century. They find that as regional unemployment increases, entrepreneurial propensity does as well. German nascent entrepreneurs are classified as “opportunity” and “necessity” entrepreneurs. While opportunity entrepreneurs generally fit the standard theoretical models of entrepreneurship determination (discussed previously in detail), necessity entrepreneurs launch businesses independently of age, gender, education, and regional influences. The

increase in necessity entrepreneurs may increase awareness and enthusiasm for startups in Germany, and the authors highlight that policies designed to generate startup activities are most effective in regions with rising unemployment.

Additionally, Joachim Wagner (2007) analyzes the gender gap in entrepreneurial activity in Germany, and his empirical model finds that fear of failure may be an important gender-specific determinant, as 56 percent of women but only 44 percent of men cite fear of failure as a reason to not become self-employed. Such a model based on risk-aversion differentials between genders presents other sociological and biological considerations in the decision to become self-employed. Fossen and Rostam-Afschar (2013) analyze precautionary and entrepreneurial savings in Germany. After controlling for entrepreneurship, they find that no significant estimates of precautionary savings remain, indicating that the difference in saving between entrepreneurial and non-entrepreneurial households is very different in countries like Germany with extensive social security systems. Since they will not receive state pension insurance and welfare, entrepreneurs must plan in order to save individually.

III. Methodology

a. The German Socioeconomic Panel (G-SOEP, or SOEP)

The data used for the empirical section of this research project is the German Socioeconomic Panel (G-SOEP, or SOEP). This panel is maintained and distributed by DIW Berlin, and access rights to the data set have been acquired with assistance from Professor Christopher Baum after submitting a brief research proposal to DIW in April 2013.

The G-SOEP data set is a panel survey data set, first collected in 1984. It is similar to the Panel Study of Income Dynamics (PSID) in the United States, in the sense that the SOEP is centered on the question of well-being over the course of individual and household lives. Both quantitative and qualitative psychological data are included in the SOEP to explain subjective ideas of well-being (often through income and life satisfaction variables), and it is used by many disciplines in the social sciences to better understand utility, ability, and personality traits.

The SOEP is generally regarded to capture intergenerational relationships, as the same households are surveyed in each wave of the SOEP to look at continuities and changes over time. Additionally, all members of the household age 17 or older are surveyed, meaning perspectives other than just that of the household head are conveyed in the panel. It contains information about networks, neighborhood, and environment, all of which are critical to this particular study. This provides information about "environmental embeddedness of behavior" and social capital. Furthermore, the SOEP has given high priority to oversampling immigrant populations with a subset of recent immigrants. The survey territory was expanded to the former German Democratic Republic in 1990 following the fall of the Berlin Wall in 1989, and a subsample of high-income households was introduced in 2002 to mitigate the issue of selection bias away from high-income households.[5]

b. Empirical Methodology

All data used in the empirical analyses of this paper are taken from the 1984 to 2011 waves of the German Socioeconomic Panel. Using the SOEPinfo program, one is

[5] All descriptions of the German Socioeconomic Panel used in this study are adapted from Wagner *et al.* (2007)'s description and analysis of the G-SOEP data set.

able to browse through directories of all variables contained in the SOEP to determine their location in the data set directories and the years in which the information was collected.[6] Each basket created in the SOEPinfo database holds up to 500 variables, and the program automatically generates Stata code developed by Dr. Jan Goebel of DIW Berlin to pull selected variables from their directories and merge them into a .dta file. For this paper, two variable baskets were combined by manually assembling Dr. Goebel's code and merging them with several "meta" variables whose directories were not accessible with the SOEPinfo codes and therefore needed to be included manually. Following the creation of the master .dta file for this paper, variables were tabulated and analyzed in Stata to identify basic trends and ideas.

Due to the nature of the survey data of the SOEP, continuous time series analysis is made difficult by survey methodology. Because new respondents are added to the participant pool each year, and because the questions asked in the survey vary depending on year and are not continuous throughout its 27-year history, six individual years were chosen for analysis. The first year included in the analysis is 1986, giving a perspective from partitioned West Germany prior to the fall of the Berlin Wall or Reunification. Data are then analyzed every five years. This analysis thus includes data from 1991, 1996, 2001, 2006, and 2011. All variables were recoded in Stata to remove missing values and make labels suitable for regression analysis. Probit regressions were run using self-employment as a dependent variable acting as a proxy for entrepreneurship (See Tables 1 through 6 in the Data Appendix). Due to sample size and missing value discrepancies between directories, regressions for each year were broken into categories including

[6] SOEPinfo is accessible online at http://panel.gsoep.de/soepinfo2012/.

employment, politics, social conditions, family characteristics, wages and income, and immigrant categories. Each regression, however, controlled for the effects of age, gender, nationality, and years of education or training.

IV. Results

a. Regression Results

Tables 1 through 6 of the Data Appendix provide summary tabulations for the self-employment proxies, used as dependent variables in the probit regression models. These tables calculate the number of G-SOEP survey respondents who classify themselves as self-employed. The percentage of self-employed respondents ranges from 4.05 percent in 1991 to 6.26 percent in 2006, with an average of 5.02 percent for the six years used in regression analyses. These tabulations align similarly with the statistics provided in the 2012 GEM by Sternberg *et al.* (2013), which state that 5.3 percent of adult Germans were either nascent entrepreneurs or owners or managers of young businesses. Overall, self-employment demonstrates a mild increasing trend since pre-Reunification waves of the SOEP panel survey.

Tables 7 through 12 of the Data Appendix describe the marginal effects of explanatory variables in the probit models for each year. The regression model results for the 1986 sample can be found in Table 7 of the Data Appendix. In all six models run for 1986, age is shown to have a positive and significant marginal effect on self-employment status, but with a small magnitude, ranging from a 0.02 to 0.21 percent increase in self-employment probability on average for each year of age. Gender is also shown to have a significant effect in many of the models, as females are shown to be 1.5 to 2.1 percent

less likely than males to be self-employed. Each additional year of formal education or training also increases an individual's likelihood of self-employment by 0.13 to 0.95 percent per additional year. While an individual's age at the time of their first job is only significant at the 10 percent level (a decrease of 0.19 percent for each additional year of delayed first employment), the nature of their first employment is very important in determining their current labor status. Those who were self-employed in their first job are 42.08 percent more likely on average to be self-employed in the 1986 survey period, and that result is significant at the 1 percent level.

While political interests and strength of political party support did not demonstrate significant effects on self-employment in the 1986 survey period, specific parties supported did in fact have significant effects. In comparison to a base case of the SPD (Social Democratic Party), individuals who supported the CDU (Christian Democratic Union), FDP (Free Democratic Party), or Green Party were 7.13, 7.17, and 2.43 percent more likely to be self-employed, respectively. These estimates are all significant at either the 1 or 5 percent levels. Furthermore, household income measures are also significant in estimating self-employment status in 1986. For each additional 1000 marks of household post-government and asset flow income, an individual was estimated to be .04 and .05 percent more likely to be self-employed, respectively. In analyzing the immigrant subsample of the 1986 SOEP, sense of German nationality did not demonstrate significant effects on self-employment. However, those who self-reported their German language skills as "good" or "very good" were on average 2.65 and 5.31 percent more likely to be self-employed, respectively.

Continuing to the 1991 regression models described in Table 8 of the Data Appendix, variables for age, gender, and years of education or training demonstrate similar marginal effects on self-employment in 1991 as they did in 1986 (with similar statistical significances and magnitudes as well). Again, the nature of first employment is shown to be a significant predictor of self-employment, with those who were self-employed in their first job being predicted as 33.56 percent more likely on average to be self-employed in 1991. Associations with the CDU and FDP again show positive and significant marginal effects on self-employment of 4.13 and 9.90 percent respectively when compared to SPD supporters.

Many components of social capital included in the 1991 regression were shown not to be significant.[7] However, several interesting predictions are discernable. Those who described their relationships with relatives to be "average" are 3.17 percent more likely on average to be self-employed (significant at the 5 percent level). Interestingly, those who knew close relations or coworkers who had moved to the West were 1.57 and 2.57 percent less likely on average to be self-employed (significant at the 10 and 1 percent levels respectively and based on the 1991 relative regression; similar trends and significances visible in the 1991 friend regression). Those who classified their relationships with friends as "average" or "close" were 3.02 and 3.11 percent more likely on average to be self-employed, respectively (significant at the 1 and 5 percent levels). Similar trends in household income measures are seen in 1991 as they were in 1986, though at smaller magnitudes in 1991. The immigrant subsample again displayed effects of German language skills, significant at the 5 percent level, stating those with "good" or

[7] Sample sizing issues may have also caused such effects.

"very good" German skills were 2.34 and 4.11 percent more likely on average to be self-employed.

While similar trends are seen with age, gender, education, first job self-employment, political party support, and household income in 1996 (with regression results in Table 9 of the Data Appendix), interesting new trends are depicted in the set of 1996 regressions. Nationality becomes highly significant in four of the models run for 1996, with those who are German-born having a 1.47 to 2.77 percent greater likelihood on average of being self-employed. All estimates are significant at the 1 percent level. The 1996 models also show significant effects of work satisfaction and political interests. In terms of work satisfaction, those who classify themselves as "moderately" or "very" satisfied with work were 3.06 and 3.75 percent more likely to be self-employed on average, respectively. Additionally, those with "strong" or "very strong" political interests were also shown to be more likely to engage in self-employment (1.95 and 2.81 percent, significant at the 5 and 10 percent levels, respectively).

In the regression models run for 2001 (depicted in Table 10 of the Data Appendix), the controls of age, gender, nationality, education, and first job self-employment all demonstrated similar predictive effects, magnitudes, and significances as they did in the models of the previous years. However, new variables that were surveyed in 2001 also added new information in this series of regressions. Age at first job was once again significant, with a 0.45 percent increase in self-employment on average for each year of delayed initial employment.

New employment-related survey questions were added in these models. The first asked participants if they are allowed to decide how to complete tasks themselves while

at work. Those who said such a statement "applies partially" or "applies completely" to their employment situation are 4.13 percent and 17.47 percent more likely on average to be self employed, and both estimates are significant at the 1 percent level. Also, those who said that learning something new often on the job "applies completely" to their employment experience are 4.73 percent more likely to be self-employed. In terms of political effects, those who classified their interests as "very strong" or supported the CDU, FDP, Alliance 90 or Greens were more likely than those supporting the SPD to be self-employed. Household income measures showed similar trends in 2001 as in earlier years, but wages showed a curiously opposing relationship. For each additional 1000 euros earned, an individual was .29 percent less likely on average to be self-employed, significant at the 1 percent level. German language skills remain important for immigrants' self-employment decisions.

In 2006 (Described in Table 11 of the Data Appendix), age, gender, nationality, education, and first job self-employment remain important significant predictors. Work satisfaction estimates are significant at the 5 and 1 percent levels, with those classifying themselves as "somewhat" "moderately" and "very" satisfied with work being 4.41, 4.30, and 5.25 percent more likely on average to be self-employed. "Strong" and "very strong" political interests showed similar effects in 2006 as they did in 2001, and while CDU, FDP, and Alliance90/Green supporters remained significantly more likely than SPD supporters to be self-employed, PDS and Republican supporters are significantly less likely than SPD supporters to be self-employed in the 2006 models. The 2006 employment models also include information on risk aversion for the first time of the years in this analysis, and risk attitudes are shown to be significant predictors of self-

employment. Those who classify their willingness to take risks as “high” or “very high” are 3.58 and 12.94 percent more likely on average to be self-employed, significant at the 1 percent level. Wages show a trend of similar magnitude and significance in 2006 as they do in 2001.

Controls of age, gender, nationality, and education have similar results in the final set of regressions for 2011, depicted in Table 12 of the Data Appendix. Interestingly, first job self-employment is no longer significant or of comparatively high magnitude in the 2011 regressions. Also, unemployment status in the previous year is significant in these models for the first time in comparison to other years, with those who were registered unemployed in the previous year being 3.93 percent less likely to be self-employed on average, significant at the 5 percent level. Risk aversion is again an important predictor, with those who classify willingness to take risks as “very high” being predicted to be 8.15 percent more likely to be self employed (significant at the 1 percent level).

Work satisfaction is also important for those who are “somewhat” (8.30 percent more likely), “moderately” (7.71 percent more likely), and “very” (12.35 percent more likely) satisfied with their employment. Political interest and party predictions follow similar patterns as the regressions for previous years. In the 2011 social regression, the number of close friends was shown to be a significant predictor of self-employment at the 1 percent level. Each additional close friend reported by a respondent increased their likelihood of self-employment by .06 percent on average. Also, the immigrant regression showed that those who wished to remain in Germany permanently were 3.43 percent less likely to be self-employed (significant at the 5 percent level).

b. Empirical Discussion

The six years used as samples in these regression models lead to several interesting analytic premises about self-employment in Germany, both before and after Reunification. The positive and significant effect of age on self-employment suggests that older members of the labor force are more likely to be self-employed, but the small magnitudes of these estimates do not allow for detailed age analysis. In many models, females are shown to be significantly less likely to be self-employed, which is consistent with a great deal of general and German-specific entrepreneurship literature. The positive and significant estimates of large magnitude for the "First Job Self-Employed" variable also highlight the potential importance of priming labor experiences for self-employment, as those with initial experience in self-employment are more likely to remain self-employed in earlier waves of the survey data. However, the estimate is no longer significant in the most recent models for 2011, perhaps indicating a changing profile of those who are choosing self-employment as a labor market opportunity and a decreasing importance of priming experiences.

An individual's education is significant in determining self-employment status, but the estimates for mother's and father's education do not give significant estimates, suggesting that parental educational levels do not correlate with their children's self-employment. Additional information on parents' employment status could have perhaps clarify the role of priming and familial social capital for self-employment. The strong relationships of several political party affiliations, which are often consistent through the six sample years used in this paper, argue that social capital coming from particular party affiliations or ideologies may be important for entrepreneurial endeavors. This hypothesis

could also be supported by the predictions of strength of political interests, which become significant in the models for later years.

It is unfortunate for the social capital hypotheses that few of the social capital indicators in the 1991 regression are significant predictors of self-employment. However, it is interesting that those who are close with friends are more likely to be self-employed on average, perhaps indicating more expansive non-familial social networks of those who are self-employed, while those who know persons who moved to the West are generally less likely to be self-employed. This may indicate that they are not taking advantage of self-employment opportunities because they are already established in their employment. More detailed regression research would be necessary to investigate further. The living standard evaluations were also not shown to be significant in the 1991 models. One could argue that not enough time had passed since Reunification for this to show a pronounced effect in the regression models.

Household income is often shown to be a significant predictor of self-employment, which is also consistent with literature that discusses the difficulties of finding startup capital for those with lower income. It is also possible that self-employed individuals have higher incomes, other things equal. It is surprising that wages have a significant negative prediction on self-employment in later years of the regression analysis, perhaps indicating that those making higher wages are more established in their traditional labor market opportunities and therefore less likely to seek alternative forms of self-employment. Additional information in the 2001 models shows that those who are self-employed are more likely to have decision power in how to complete their tasks at work, and they are also more likely to learn new things often while at work. This is useful

evidence when considering personal preferences and fulfillment of goals in employment. Work satisfaction is also a positive and significant predictor of self-employment in the 2006 and 2011 models, perhaps indicating a modern transition to more fulfilled and fruitful self-employed individuals.

Willingness to take risks is often discussed in the literature as an important characteristic of entrepreneurs, and the regression analyses for 2006 and 2011 also provide evidence for this idea. Other important results in later waves of regression modeling include the fact that recent unemployment has a negative and significant predictive effect on self-employment in the 2011 models. A possible explanation may be that those who are unemployed do not have the appropriate skills to instead transition to self-employment. Furthermore, when looking at trends in the immigrant regressions, self-assessed language skills are very important determinants of self-employment in the immigrant subsample, an expected result considering the necessity of immigrants in Germany to be familiar with the language in order to run a successful business venture. The 2011 models also show that those who wish to remain in Germany permanently are less likely to be self-employed, perhaps indicating that these individuals would rather assimilate to a more traditional labor market opportunity in their new country, as opposed to looking for alternative work options.

V. Case Study: Contemporary Entrepreneurship in Berlin

a. Cultural, Social, and Entrepreneurial Transitions in Reunified Berlin

The fall of the Berlin Wall in 1989 and subsequent Reunification in 1990 brought about immense economic changes for Germany, as the faltering socialist system of the

German Democratic Republic was absorbed into the expanding capitalist economy of the Federal Republic of Germany. In addition to the economic adjustments in currency valuation, infrastructure, and regulations, German Reunification also brought profound cultural and social shifts to both East and West Germany, as a divided people came together once again in the attempt to establish a national identity. This quest for a reunified cultural and social identity was perhaps most pronounced in Berlin, the city where the former East and West truly converged, both geographically and culturally. Alongside this convergence came the challenge to create a new identity for the reunified Germany that also provided distinction and a trajectory for future growth. With its history of destruction, partition, and reconstruction, Berlin is an interesting locale in which to observe such transitions.

The desire to capture both history and modernity in this new view of identity is discussed in further detail by Philip Broadbent (2008). "The obsessive preoccupation with history and cultural memory in Berlin takes on many forms," he explains. "The city is a site of layered histories, each vying to be heard and rescued from oblivion. In Berlin, everyone stumbles over the paving stones of German history" (149). The German term *Wende,* continues Broadbent, means "a turn," and it is often used to describe the turning point in German history caused by Reunification. But he insists that despite the turns and changes in the social, cultural, or economic trajectories of Germany, the past will always be present in Germany and Berlin in particular.

As Jarausch (2012) explains, the difference in living standards between the GDR and FRG became immediately apparent as millions of East Berliners streamed over the border following the breach of the Wall and witnessed firsthand the economic stagnation

of the East German society. It was therefore in Berlin itself that the cries for unification strengthened under the guise of "we are one people." Berlin's role took on even greater significance in the reunified Germany when the capital was relocated from Bonn to Berlin. Jarausch continues that the term "Berlin Republic" is used in contrast to that of the former Federal Republic. This change in terminology depicts not only the geographic shift of the capital city, but a "new quality of political culture and the growth of international responsibilities" as well (334).

Furthermore, as former East Germans adapted to an individualistic society in the reunified Germany, a new type of competition was created in which small business owners, civil servants, and urban professionals sought higher degrees of success. Former East Germans undoubtedly experienced comparative disadvantages in adapting to such social and cultural constructs. However, Jarausch argues that such discussion of "one state, two societies," particularly in the case of Berlin, is overly simplistic and fails to acknowledge the transnational issues that arose on the German and international stages in the same time frame as Reunification. These globally-minded shifts, however, would come to play a greater role in shaping Berlin's twenty-first century economy, particularly after its stagnation in the late 1990s and early 2000s (336; 338-339).

The partitioned East Berlin, as described by White and Gutting (1998), was designed to show the power of the socialist regime and to serve as a center of working-class life. Alexanderplatz became a focal point of East German power, while historic landmarks on the famous Unter den Linden were destroyed in the post-War period. Contrastingly, West Berlin remained a provincial city after its partition; despite large city centers such as the Kurfürstendamm, West Berlin was isolated and had no access points

to the remainder of West Germany. The relative underdevelopment of both East and West Berlin during partition therefore paved the way for gentrification to occur as the city was once again reunified in the early 1990s. Prenzlauer Berg in former East Berlin, for example, was a hotbed of countercultural activity near the end of the socialist period. It has since become known for its gentrified housing stock, change in urban form and activities, and its role as an entrepreneurial hub of contemporary Berlin.

Following Reunification, White and Gutting argue that housing standards remained worse in the former East Berlin when compared to the West. Yet both the East and West became home to large immigrant populations in the 1990s. West Berlin led this trend as its employers recruited migrant guest workers from Mediterranean countries, Yugoslavia, and Turkey, who largely began settling in the Kreuzberg, Wedding, and Schöneberg districts. East Berlin was slower to attract high numbers of migrant workers, yet it now is home to a large representation of Polish, Turkish, former Yugoslavian, and other Eastern European immigrants.

White and Gutting believe that as government policy began to focus on urban renewal in the east, Prenzlauer Berg had many advantages for becoming a hotbed of redevelopment and eventual gentrification. This has increased its international prestige and made it a hub of business development and entrepreneurial activity in the twenty-first century. It is accessible and well-connected to other parts of the city via the U-Bahn, its housing stock was largely unaffected by Soviet reconstruction (therefore making it more aesthetically pleasing for redevelopment in the 1990s), and it was relatively "left alone" by the GDR regime. The authors therefore assert that "Prenzlauer Berg already carried an image as a stylish district with the possibility of establishment of bohemian,

'alternative,' or 'ecologically aware' lifestyles, sometimes maintained by young people in well-paid employment, sometimes by self-employed craft workers" (White and Gutting 1998: 222).

While White and Gutting concur with Broadbent (2008) and Jarausch (2012) that history remains etched in Berlin despite its redevelopment, they also demonstrate how the economic and social shifts of urban renewal primed up-and-coming districts of Berlin for entrepreneurial attention on a global scale. Heebels and van Aalst (2010) highlight that contemporary Prenzlauer Berg is characterized by a young and highly-educated population, a high birth rate, and a small minority population, while Kreuzberg is notable for its large Turkish immigrant population and the development of social spaces (i.e. bars, clubs, restaurants) on the banks of the Spree River. Such environments adapted to become ideal for the local exchange, feedback, and cooperation that are critical for the success of cultural entrepreneurship. Pécoud (2002) expands upon the idea of Turkish entrepreneurship in Berlin, critiquing that a regard of multiculturalism in entrepreneurship contradicts itself because "it promotes a vision of society in which relations between groups are determined and dominated by economic concerns" (Pécoud 2002: 505). Indeed, integration of Turkish immigrant populations into the economic and cultural spaces of Berlin remains a challenge for policymakers, business owners, and residents alike.

Cochrane and Passmore (2001) also describe Berlin's "Euroconvergence," or its "assimilation into the political-economic network of European cities," as a reason for increased international regard and business development in the German capital (Cochrane and Passmore 2001: 347). They assert that Berlin in the late 1990s and early 2000s

assimilated into this Western European network to create international business platforms for Europe and later for the global community. As a gateway to Eastern Europe, the authors propose that Berlin holds an important geographic and cultural location as economic activity expands beyond the traditional Western European powers and into the reconstructed and innovative Eastern European nations.

With the modernization of Potsdamer Platz as a business hub of Berlin, alongside modern architectural contributions from famed designers Renzo Piano and Richard Rogers, the Berlin of the early 2000s represented a break from tradition and a goal of innovation within a more globalized network. Cochrane and Passmore insist on viewing cities as "complex and differentiated 'ensembles' made up of the informal as well as formal relationships and the conventions that exist between agencies (people, organizations, interests) which underpin their economic organization" (351). In this regard, Berlin was able to capitalize on its reentry into the European political-economic network to leverage elements of its culture as an entrepreneurial hub in the new millennium.

As Liat Clark wrote in 2012, several years after the height of uncertainty in the Eurozone crisis, many young Europeans flocked to the countercultural center of Berlin, a "city where entrepreneurship is second nature, in a country that is one of the most politically and financially stable on the continent" (59). A growing body of socioeconomic literature considers this fusion of creative culture and relative economic stability as foundations of Berlin's growing startup scene. These so-called "culturepreneurs," as discussed by Lange (2011), initially focused on startups in fashion,

design, and music, which used aspects of space in Berlin to drive their business organizations, cultures, and social networking.

Being a true Berliner, argues Lange, soon came to mean accepting a disparate urban context filled with old, new, and migrant workers, many of whom had fallen on economic hardships with the stagnation and global downturn. Berlin was portrayed as a countercultural island that needed to be understood and conquered in order to succeed, and these "Berlin mentalities" stressed neoliberal and flexible labor market opportunities in times of economic downturn.[8] Such neoliberal ideas in the context of a modernizing city space therefore prompted cultural self-assertion, sites for new cultural projects, and a growing entrepreneurial spirit in the city (271). The ideas of "scene knowledge," or familiarity with and networking within a particular socio-spatial enclave, became important for the success and proliferation of culturepreneurs' ideas. Space and place, therefore, were crucial in creating the identity of a cultural entrepreneur.

Heebels and van Aalst (2010) further develop this idea of space and networking in entrepreneurship with their discussion of "creative clusters" in areas such as Prenzlauer Berg and Kreuzberg. These local networks improved the flow of information and ideas, and could reduce transportation or transaction costs in the marketplace. Geographically, the open space in Berlin coupled with vague urban planning allowed the post-Reunification landscape to develop alternative movements and cultural initiatives, including non-commercial creative scenes (i.e. music, literature) and creative industry. Creative entrepreneurs of this era cite Berlin's tolerant and dynamic atmosphere, as well

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[8] *Neoliberalism* is defined in the Collins English Dictionary (Online) as "a modern politico-economic theory favoring free trade, privatization, minimal government intervention in business, and reduced public expenditure on social services." http://www.collinsdictionary.com/dictionary/english/neoliberalism?showCookiePolicy=true Accessed 14 March, 2014.

as low rent and living costs, as reasons for the establishment of their ventures in such a locale.

Overall, the authors conclude that Berlin culturepreneurs are now searching for an authenticity of place that cannot be created with policies for urban renewal. Instead, places such as clubs, bars, and cafes become critical for this group as they look to exchange ideas or meet "cultural gatekeepers" who have direct practical experience with the cultural startup scene. Despite the positive effects of networking on culturepreneurship in Berlin, Hausmann (2010) offers a more critical perspective of the difficulty that comes when intersecting cultural entrepreneurship and successful business management. Using the example of musicians, she asserts that musicians must be aware of sponsorship, funding, and business management opportunities in order to manage risk and ensure the long-term survival of artistic or cultural endeavors.

As these authors illustrate, Berlin's entrepreneurial roots were founded in its countercultural image in the years following reunification, which prompted artists and so-called culturepreneurs to take advantage of the dynamism, openness, and creative clustering and networking in the city to pursue artistic endeavors. Yet contemporary Berlin is notably transitioning away from the purely cultural basis of entrepreneurship to what Clark (2012) calls "the city's second wave of creativity," or its booming growth of technology startups (59). Berlin is now being compared to Silicon Valley in terms of the scale of its IT startup growth, and governmental policies are being implemented to encourage both German and international entrepreneurs to settle in Berlin to create the next big application, social network, or operating system. Venture capital is beginning to flow into the city, and the counterculture that led artists to pursue the "bohemian"

lifestyle in Berlin is now prompting technology entrepreneurs to seek opportunity in an increasingly modern and international city. "Silicon Allee," as it is known, has hopes of further stimulating the German economy and encouraging technological innovation in the capital city.

Furthermore, Schmude *et al.* (2008) describe how entrepreneurship research and education in Germany is becoming very interdisciplinary, including synthesis with sociology, economics, and economic geography. The students graduating from Germany's technical universities are often internationally-minded, further opening up Berlin's startup scene to global involvement and internationalization of research and development. The authors also discuss their reservations about the internationalization of entrepreneurship in Germany, fearing that it could cause convergence of methods or topics, which would stifle its unique entrepreneurial innovation and research.

An interesting facet of technology entrepreneurship development in Berlin is the cultural attitude towards risk. A willingness to take risks is necessary to initiate and scale businesses within the tech sector, and many have criticized Berlin's entrepreneurs and investors for their conservative view of startup creation and financing. In her analysis of the dot-com era boom and bust in New York City's "Silicon Alley," Gina Neff (2012) argues that social processes determine how risks are framed, and social forces naturalize economic risk. Venture labor in the technology industry therefore requires that employees as well as entrepreneurs constantly update their skills and prepare for quick turnarounds.[9]

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[9] Gina Neff defines *Venture Labor* as "the investment of time, energy, human capital, and other personal resources that ordinary employees make in the companies where they work. Venture labor is the explicit expression of entrepreneurial values by non-entrepreneurs. Venture labor refers to an investment by employees into their companies or how they talk about their time at work as investment…Venture labor includes the entrepreneurial aspects of work – how people behave as if they have ownership in their companies, even when they are not actual owners" (Neff 2012: 16).

The labor process has become individualized, with rhetorical insistence on employees and entrepreneurs "buying into" the goals and ideals of the company.

Neff continues that the dot-com boom saw young, energetic, new-economy entrepreneurs who were willing to take risks and have fun while making their money. Despite the bust of the dot-com bubble in the early 2000s, a lasting impact from this entrepreneurial era is the creation of technologies that seamlessly integrate into everyday life. The motivations of Silicon Alley have therefore crossed the Atlantic to Silicon Allee, as developers, programmers, and those with groundbreaking tech ideas look to integrate technological innovation into the everyday lives of users.

According to Neff, Silicon Alley was motivated by young idealists who wanted to use technology to change media culture and economic trends in cultural production (152). This draws parallels to the young, well-educated and technically-trained entrepreneurs finding new homes for their ventures in Berlin. Even given the eventual downturn of the dot-com boom in Silicon Alley, the creation of social capital from entrepreneurial networks has been demonstrated to manage the risk incurred by individuals and companies. Neff believes that Silicon Alley shows how economic movements are inexorably linked to cultural and communication practices. The following media analysis of Berlin's contemporary entrepreneurial space seeks to determine how cultural practices are establishing startup culture, and how such a culture is being communicated to the international community.

b. Case Study Methodology: Content, Discourse, and Institutional Analyses

Further understanding of the contemporary entrepreneurial culture of Berlin can be discerned from its portrayal in popular media and international advertising. The

following content and discourse analyses use various media, including government-sponsored publications, consulting reports, news articles, blog posts, and websites, to discern the nature of the startup scene and how it is being portrayed to both insiders and outsiders.[10] A focus on social capital is crucial for this analysis. In his discussion of social capital and its uses in the creation of human capital, Coleman (1988) states, "The principle virtues of this intellectual stream lie in its ability to describe action in social context and to explain the way action is shaped, constrained, and redirected by the social context" (S95).

Manski (1993) also highlights the importance of analyzing social effects under the guise of the "reflection problem." The reflection problem requires one to discern whether the portrayed image reflects a movement or causes it. In other words, is the portrayal of Berlin's startup culture reflecting the true nature of the movement, or creating a self-fulfilling image of how entrepreneurship looks in the German capital? Furthermore, how is this portrayal influencing policymaking and venture capital investment flows for technology startups?

Using Dedoose, a qualitative data analytics software, a qualitative code tree was developed to identify trends in popular media and online discourse surrounding Berlin's entrepreneurial culture and successes (See Table 13 in the data appendix for code tree).[11] Popular online media from the time period of 2011 to 2014 was collected and uploaded to

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[10] The content and discourse analyses use synthesized qualitative data from the following collection of popular media sources, indicated with an asterisk in the reference list: "Agora Collective: About" (2013); Becker *et al.* (2013); "Betahaus Coworking: Our Story" (2013); Bildungswerk in Kreuzberg GmbH (2011); Birstow (2013); Clark (2012); *Economist* staff (2013); Garling (2013); German Senate Department for Economics, Technology, and Research (2013); Global Innovation Center (2013); Ingram (2013); Kratzer (2013); Kulish (2011); McKinsey and Company (2013a); McKinsey and Company (2013b); Startup Genome (2012); Vasagar (2014); and Williams (2013).

[11] Dedoose access was granted courtesy of the MacArthur Foundation Connected Learning Research Network.

Dedoose for analysis. Media sources include, but are not limited to: *The New York Times, Der Spiegel, The Economist, The Financial Times, The Local, Business Traveler,* and *Wired Magazine.* Eighteen sources were selected to provide a broad range of local and international opinion, including personal narrative, government perspective, and business analysis.

After coding the eighteen documents using the Dedoose code tree, the analysis features of the software were used to pool excerpts falling under the same code categories. A content analysis was then completed in order to determine the information being presented and how the entrepreneurial culture of the city has evolved in recent years. According to Ruiz (2009), "qualitative social research aims to obtain objective knowledge about subjectivity from intersubjectivity," and he describes content analysis as breaking down texts into pertinent units of information for coding (3, 6). Content is also considered the space in which the discourse originates and acquires its meaning (9).

Lacity and Janson (1994) discuss qualitative data analysis framework in a tripartite format of positivist, linguistic, and interpretive approaches. Content analysis falls under the categorization of positivist methodology which "impl[ies] that the meaning of text data is objective in the sense that a text corresponds to an objective reality" (142). Content analysis using thematic units requires developing a code scheme, coding the documents, analyzing the frequencies and natures of the codes, and constructing hypotheses based on these thematic units (this is the Dedoose methodology as described above). Such a positivist content analysis assumes that the reader can infer meaning from the text without direct interaction with the author or speaker.

As defined by Ruiz (2009), discourse from a sociological standpoint is "any practice by which individuals imbue reality with meaning" (2). Analyzing discourse, therefore, requires researchers to reconstruct these interactions that occur through communication to understand their meaning, the viewpoint of those partaking in the discourse, and how such discourse is shaping the actual nature of events that reflect the habitus of the subject producing the communication.[12] From the methodological perspective of Ruiz, discourse analysis therefore analyzes the eclectic character of communication that is structured around the subject, as well as the interpretation linking discourse with broader social realities.

Discourse analysis is considered by Lacity and Janson to be a linguistic methodology, which they believe can allow researchers to "study the use of power, discrimination, decision processes, norms, and virtually any other social actions of interest" (145). Discourse analysis methodology therefore operates under the assumptions that language shapes reality and can be used to study behaviors. It studies the structure of the entire conversation surrounding an issue or institution and it "allows researchers to relate the sequence and organization of a dialog to the social relationships that arise from the conversation" (147). This methodology, alongside the interpretivist intentional analysis, which seeks to understand the speaker's intentions, will build upon content analysis to understand *how* the entrepreneurial culture is being portrayed and how this discussion is subsequently shaping the space itself.

Following the analysis of media content and discourse, a basic institutional analysis was completed to learn more about how entrepreneurship in Berlin functions in

[12] Habitus is adapted from Pierre Bourdieu and is defined by Ruiz (2009) as "the discursive competence of the subject, which derives from belonging to a given social group and from the social experience that is conditioned by this belonging" (13).

an institutional structure. In discussing institutional analysis methodology, Schneiberg and Clemens (2006) state: “Actors rarely, if ever, remain silent as they make policy or build regulatory regimes. They think, meet, argue, make claims… and generate discursive output…In producing this output, actors reveal how they perceive problems, and make connections among concepts, objects, and practices” (210-211). The authors comment on using the entwinement of formal institutions and cultural models to decipher the nature of organizational and industrial form. This process of basic institutional analysis was therefore used to determine policy implications of popular media narratives of entrepreneurship in Berlin. In doing so, the “pillars of institutionalism” in the public and private sphere, including regulatory, normative, and cognitive dimensions, were employed in the analysis (213). These three methods were all synthesized in order to discuss cultural, monetary, and political aspects of Berlin entrepreneurship.

c. Content, Discourse, and Institutional Analyses

While analyzing the content of popular media’s discussion of entrepreneurship in Berlin, divergence is found in the discussion of the potential of the creative and entrepreneurial culture in comparison to the realities of the lack of funding and networking opportunities. While comparing the culture of Berlin to other startup hubs, it is often described as “up-and-coming” and compared to New York and its dot-com boom. While parallels and contrasts are drawn between Berlin and Silicon Valley, most agree that Berlin will require another generation of entrepreneurial development before it rises to the level of Silicon Valley in terms of global output. Today, Berlin’s growing startup scene is geographically centered around Kreuzberg, Prenzlauer Berg, and the Rosenthaler

Platz area of Mitte, all of which are forming the expanding "Silicon Allee" (Startup Genome 2012; Birstow 2013; Kulish 2011).

This comparison discourse, particularly that which compares Berlin to New York, is an effective assessment of its trajectory, potential, and possible difficulties. The moniker of "Silicon Allee" and its comparison to New York's nickname of the dot-com era cannot be disregarded in this discourse; many hope Berlin will be come another major German business center. Such comparisons paint Berlin as a scene with great potential, yet one that cannot yet match the productivity of Silicon Valley due to cultural and infrastructure differences. Nevertheless, constant repetition of its "up-and-coming" nature demonstrates that many do believe in Berlin's startup potential. New York comparisons, however, also reference the startup risk described by Neff (2012), warning Berlin against the bubbles associated with internet and tech development and stressing diversity and careful planning in its startup funding and endeavors.

In analyzing the cultural content of popular media representations, it is first critical to look at the references to Berlin as an artistic and cultural center of Europe, as well as how such artistic attitudes are developing startup culture as a whole. The tradition of high quality German engineering becomes important when coupled with the allure of Berlin as an artistic center, founded on ideals of internationalism, creativity, vibrancy, and multiculturalism. In fact, the governmental marketing campaign for entrepreneurial development in Berlin is "redefine the possible. log in. berlin." and the city is pursuing active recruitment of non-German entrepreneurs who may be interested in relocating to the city. Its low rents and cost of living in comparison to other European cities also make it an affordable option for bootstrapping entrepreneurs. Ben Martinek, a Silicon Valley

transplant to Berlin, goes as far as to call the city "the only affordable metropolis left in the world" (Vasagar 2014; German Senate Department 2013; Garling 2013; Williams 2013; Clark 2012; Bildungswerk in Kreuzberg GmbH 2011; Becker *et al* 2013).

Renowned for its countercultural image that stems back to the days of partition, Berlin is presented as a locale in which free-spirited, creative, and ambitious individuals who want to "go their own way" can flourish. Berlin Mayor Klaus Wowereit's famous characterization of Berlin as "poor, but sexy" still resonates with those who hope to transform their wild ideas into successful ventures while bootstrapping in Berlin. The eclectic scene of cafes and unique nightlife is often portrayed as a draw to the city, where working hours are as unpredictable as the weekend club scene. Alexander Ljung, founder of prominent startup Soundcloud, which relocated to Berlin from Sweden, often goes as far as to describe the whole city of Berlin itself as a startup, with a synthesis of artistic culture, technological innovation, and countercultural attitudes. Indeed, Berlin is home to Germany's premier technical universities and art schools, bringing innovation culture to the forefront of education as well (Startup Genome 2012; Ingram 2013; Kulish 2011; Becker *et al.* 2013; Global Innovation Center 2013).

The intersection of technology and art is particularly prominent in the startup culture surrounding mobile application development. In a city where the norm is becoming young people sitting at computers in crowded cafes, the countercultural attitudes of Berlin create an environment in which it is mainstream to do things differently. Such attitudes have given rise to Berlin-based startups such as Ljung's audio streaming site Soundcloud, often described as the poster child of the Berlin entrepreneurial scene; Wooga, an online gaming company praised for its innovation by

Chancellor Angela Merkel herself; ResearchGate, a site to connect researchers, data, and scientists to expedite peer review processes, in which Bill Gates has become an investor; and 6WunderKinder, a to-do list management app that recently received an investment from U.S.-based Sequoia Capital (Garling 2013; Williams 2013).

Yet others also discuss whether Berlin's hip image can effectively create jobs. The "hipster" image has marketed the city as a capital of fashion, music, art, and now technology, with some even joking that everyone in Berlin moonlights as a DJ. As one of the most talked-about startup hubs in Europe, some believe Berlin's hype is justified, while others are skeptical of the euphoria. Discussions of its startup culture as a "bubble" or "Berlin-centric" critique the realism of its potential and may limit its options for future growth. Nevertheless, many argue that Berlin is on the appropriate track to continue benefiting from its culture and human capital as a European startup hub (Kulish 2011; Garling 2013; Williams 2013; Becker *et al.* 2013; Ingram 2013).

Cultural discourse is therefore synthesized from many critical perspectives. First, language often portrays Berlin as a place to "be cool," where one is encouraged to live a minimalistic, hipster, anti-mainstream life in pursuit of your interests, and where one will be able to reap the benefits of doing so. For many, "poor but sexy" is a badge of honor that is associated with living in Berlin and partaking in this counterculture, and the discussion also highlights how this counterculture is rooted in history yet determining future trajectories. Affordability, high-profile transplants such as Ljung, and artistic-technology synthesis are not just marketing techniques; rather, they are described to represent the true attitudes and aesthetics of the scene, which must be bought into in order to appreciate, understand, and succeed in this environment. In this way, the actors of the

scene seem to be actively solidifying these cultural ideas into institutional frameworks of startup culture, though perhaps they themselves would never admit to such.

Yet it is precisely this discourse that also highlights some of the "exclusivity" and "hype" of the scene. Many express trepidation about the attitudes that one can only be successful in Berlin if they trade an office for a café, a networking event for a club, or a 9-to-5 day for a sporadic, night-owl lifestyle. Whether or not these are actually necessities in Berlin is likely up to interpretation and opinion. But while the city claims to positively promote relocations and development by non-German entrepreneurs, others bemoan the lack of immigration forms translated to English, or the lack of a formalized mentorship culture. Even when the discourse *can* be collectively described, understood, and used for individual benefit, there still exists a cultural disconnect in the ideas of openness and creativity in comparison with the actual realities that may in fact promote exclusivity. Despite the often-positive undertones of this discourse, it also seems to ask: Is a hipster counterculture sustainable for economic development in the long run?

Additional innovation in Berlin's entrepreneurial scene can be found in new technology applications and spatial components of work, such as coworking.[13] McKinsey and Company's report on startups in Berlin stresses the importance of digital, biomedical, and urban technology for the city's success. Many argue, however, that technology has *already* become Berlin's present and future, specifically in mobile and application development. Revenues from businesses are rapidly shifting from online products to mobile outlets, with estimates predicting that 20 percent of German productivity growth

[13] Coworking involves a shared work buildings, spaces, and infrastructure which individuals can use, often by becoming a member of an organization or collaborative. The same employer does usually not employ those working in coworking spaces, but social and collaborative motivations are also critical in the coworking model.

stems from technology such as cloud computing, e-commerce, and digital marketing. Government offices are quick to promote their sponsorship of tech industries in Berlin, but others argue that more active sponsorship of tech development is necessary to build support for existing strengths. The tech talent exists, and Berlin has become a main attraction for prominent developers, but is still waiting for its "German Google," or an "exit" that will have large international significance in an online sector (McKinsey 2013a; Kulish 2011; Williams 2013; Becker *et al* 2013; German Senate Department 2013; McKinsey 2013b).

The idea of coworking further builds on collaborative identities and shared infrastructure within the Berlin startup culture. With the third highest per capita number of coworking spaces in the world and over 50 new spaces opening up in recent years, this urban workspace model is actually designed to promote collaboration and networking while also allowing nascent entrepreneurs to keep operating costs low. The Agora Collective in Berlin's Neukölln neighborhood describes itself as a "network that creatively facilitates the exchange, development, and encounter of the ideas, skills and resources amongst people and projects." It also highlights its spacious workspaces, artistic studios, café, and silent zones, which can all be adapted for users with different needs and interests who still want to inspire and be inspired in the community. Similarly, Betahaus in the Kreuzberg neighborhood was founded in a former state-owned building and capitalizes on its eclectic cultural mix of "Vienna-style coffee house, library, home office, and university campus." Betahaus actively promotes its ideology that high quality value no longer originates from traditional offices or the traditional economy, but rather

from collaborative innovation (McKinsey and Company 2013a; German Senate Department 2013; “Agora Collective: About” 2013; “Betahaus: Our Story” 2013).

Examples such as technological adaptation and coworking thus bring the discourse of Berlin startups in contact with the idea of the “New Economy,” a product of the twenty-first century which diverges from traditional economic constructs by changing dialogue, production, and ultimate output of economic activity. Generally, this discussion in Berlin is one of optimism; a history of technological prowess in engineering has long existed in Germany, and synthesis with creative industry engenders potential for applied technology. The discourse also stresses the individuality of the experience. Entrepreneurs are encouraged to choose their own working and networking methods to best suit their personalities and their ventures while striving to keep an open mind and produce output of quality. But do successful ventures require more structure than they are finding in Berlin’s culture? The discourse remains somewhat inconclusive in addressing this question, as Berlin is perhaps too early in its own entrepreneurial development to make such determinations. However, discussions of funding, networking, and scaling begin to show the disconnect between the positive, hyped culture of Berlin and its more humble realities and challenges.

Monetization, funding, and venture capital investment are discussions of growing importance in the Berlin startup scene. Frankly, many believe there is not nearly enough venture capital or angel investment in Berlin to continue founding businesses, and it is seen as a major growth constraint for already-established ventures. Government organizations are quick to publicize public and private opportunities for funding that are available in Germany, but others insist that the reality finds Germany short on finance for

entrepreneurs. German entrepreneurs are much more likely than their international contemporaries to use banks or loans to fund ventures due to the lack of angel and venture capital investment, and this can limit creative license. Nevertheless, several funding bright spots do exist in Berlin, including Rocket Internet, a venture firm founded by the Samwer brothers that stresses resource sharing among the companies it launches. U.S. based firms such as Sequoia Capital and Union Square Ventures are also gaining interest in Berlin, causing new narratives of cautious optimism related to funding (*The Economist* Staff 2013; Garling 2013; German Senate Department 2013; Bildungswerk in Kreuzberg GmbH 2011; Startup Genome 2012; Vasagar 2014).

Funding woes therefore impact the business lifecycle for startups in Berlin. It is estimated that a new startup is founded in Berlin every 20 hours, and many express their beliefs that Berlin is one of the best places in the world to start a company in the present day. While some hope that today's ventures will maintain their relevance far into the future, others argue that Berlin is not yet mature enough in terms of capital, support infrastructure, and mindset. As great as Berlin may be for starting a company, resources are lacking for entrepreneurs as they begin to scale it. This has therefore led to high failure rates, low retention rates, and a short-lived startup lifecycle that often prevents politicians, academics, or policymakers from taking an active role in startup development (*The Economist* Staff 2013; Becker *et al.* 2013; Startup Genome 2012).

The monetization and scaling discourses are somewhat difficult to decipher in order to understand the true nature of venture funding, as the source itself usually gives more information in its subtext. Government publications (German Senate Department 2013; Bildungswerk in Kreuzberg GmbH 2011) portray an influx of foreign and domestic

funding streaming into Berlin, but such discourse is clearly politically motivated and attempts to shape the space around the dialogue. This biased perspective does not confront the issues facing capital availability in Berlin. The critical undertones of entrepreneurs themselves as they speak about government involvement raise questions as to whether Berlin's models of fostering entrepreneurial growth and retention are working. Even if they are having successes, the discourse also demonstrates yet again the division between innovation culture and practicality of results. Even Berlin-based incubators such as Rocket Internet are often criticized in a contradictory manner, with many believing they create many similar ventures and do not have enough appreciation for diverse ideas and business models.

This implicit dialogue therefore asks how Berlin's attractive counterculture can be preserved alongside a more business-minded and results-driven atmosphere. Arguably, no on has exactly figured out how to do so yet. Even model startups like Soundcloud and Wooga have yet to record large profits. The inclusion of risk aversion into these discussions also shows that the optimism associated with Berlin does have practical concerns, both on the interior and from the exterior. Monetization and scaling therefore heighten this idea of "within" and "elsewhere" in the dialogue, as it describes the attitudes and activities within the city as well as the necessity to interact on a more international scale. The literature implies that the contemporary entrepreneur in Berlin will have to unify these two spaces and attitudes of "within" and "on the exterior" to be successful.

Therefore, in the midst of such a cultural challenge, networking and synthesis of this process are all the more important for the proliferation of successful business models.

Despite the discourse of collaboration in coworking spaces and cafes such as St. Oberholz in Rosenthaler Platz, there is concern that the Berlin startup community is not networked enough. While clustering usually occurs around ventures with similar technology, methods, and missions, stakeholders are portrayed as distant from established companies and some aspects of government and policy. The transience of the city is also a difficulty for trying to establish supportive and deep-rooted networks (Kulish 2011; McKinsey 2013b; Ingram 2013).

d. Policy Implications and Conclusions

Having analyzed the content and discourse of popular media surrounding entrepreneurial culture in Berlin and discerned what the discourse demonstrates about the institutions that comprise the startup culture, it therefore becomes critical to evaluate policy implications and suggestions put forth in this literature. This will evaluate how entrepreneurship in Berlin can be actively supported and expanded. Many express optimism that multibillion-euro companies are in Germany's not-so-distant future, and that the companies being founded today will continue to have relevance in the coming years. But the discourse of popular media makes it clear that certain structures and attitudes of Berlin startups will need to be addressed before this can become a realistic and sustainable goal, and strategies need to be approached proactively to continue encouraging local and non-German entrepreneurs alike to buy into Berlin's startup culture (Becker *et al.* 2013).

Angela Merkel and her coalition government have also vowed their support to create a new *Gründerzeit*, or Era of Founders, in Germany through their support for infrastructure, research, and education. Yet the way in which such programs are instituted

will be critical in determining their success. The German Senate Department for Economics, Technology, and Research lauds itself as "Berlin's one-stop agency for domestic and foreign companies," but many who are active in Berlin's entrepreneurial scene criticize the city and national governments' involvement. Government agencies often lack English-speaking or multilingual staff, translated documents, and understandable bureaucracy, making it harder for Berlin to grow on an international scale (Vasagar 2014; German Senate Department 2013).

Global consulting firm McKinsey and Company recommends the development of a multilingual unit of roughly 10 directors and additional employees to outline and implement strategies and goals for entrepreneurs in Berlin and to act as a liaison between the government and startups themselves. Others describe the necessity of expanding loans for new businesses from KfW, the federal development bank, and High-Tech Gründerfonds, a semi-official state venture capital firm. Therefore, in order to foster entrepreneurial development, government activities must become better-coordinated and more accessible, while remaining cognizant of the unique culture that originally created Berlin's startup mentality (McKinsey and Company 2013a, 2013b; *The Economist* Staff 2013).

Perhaps an effective method of working toward such a cultural and governmental synthesis would be to reach out and form partnerships with successful entrepreneurs to promote venture capital investing and entrepreneurial recruitment in the city. The Global Innovation Center critiques Germany's risk attitudes, pointing out that top engineering talent is usually funneled to established manufacturers and the "culture of failure" necessary for entrepreneurial persistence is generally lacking. Because Berlin still lacks

major IPOs, entrepreneurs often turn to the large incubators managed by German companies, such as Deutsche Telekom or Rewe. Such funding practices thus perpetuate the established business culture of in Germany and do not allow for enough opportunities to innovate (Global Innovation Center 2013; *The Economist* Staff 2013).

Berlin is not Silicon Valley, and attempts to morph it into a copied structure will likely not be successful. However, it is often remarked that Silicon Valley startups are encouraged to get users first and make money later, an attitude very divergent from that of Berlin. Perhaps ideological convergence could therefore be found if actual members of both Berlin's and other cities' startup scenes take on the role of venture capitalists, angel investors, incubators, or policymakers. Firms need continued resources to discuss and plan long-term financing. Expanded foreign investment will be critical to future scaling and development, yet government and private firms will also benefit from recruiting successful Berlin entrepreneurs such as Alex Ljung of Soundcloud or Jens Begemann of Wooga to advise growth strategies for venture capital in the city. As founders who have navigated funding, regulations, and culture to create ventures in the city, they are luminaries who can assist with synthesizing funding and networking in Berlin (Garling 2013; McKinsey 2013a; *The Economist* Staff 2013).

Finally, Berlin must continue its investment and promotion of entrepreneurship in education, training, and networking. Education must continue to innovate and accept its challenge of changing societal perceptions of entrepreneurship, encouraging students and graduates to pursue their own business ventures. Entrepreneurial education is gaining momentum in German and European universities, and it is starting to be recognized as a legitimate academic discipline. But it is still largely considered a grassroots movement.

More needs to be done to encourage professors and students to pursue IT-based courses and entrepreneurial employment, and incentives can stimulate more activity at research institutes. Using education to construct this social capital and habitus of entrepreneurship will have long-term effects on innovation and networking (Kratzer 2013; McKinsey 2013b).

Education must also continue outside of the confines of a university. McKinsey and Company also advocates for a "Berlin Startup Curriculum" as a way of connecting entrepreneurs with resources and networking while aligning policy and funding activities. They also suggest the former Tempelhof Airport in western Berlin as a possible site for a startup campus. Such a project would provide training and networking spaces for nascent entrepreneurs, and established companies could also build headquarters on the property. In the socio-spatial sense, it would create a centralized enclave of startup activity in the city, thus creating a small and concentrated Silicon Allee where training and networking were more accessible and encouraged. Plans are already in the works to build a 230-hectare research hub for energy and biotechnology at the site of Tegel Airport, but the continued delays to its replacement Berlin Brandenburg Airport have also caused unexpected delays to this project. These projects can use the precedent of Google's The Factory in Berlin Mitte, which serves as a locale to bring tech entrepreneurs together (McKinsey and Company 2013b; Clark 2012; Garling 2013).

Overall, policy strategies for fostering entrepreneurial growth in Berlin are often dependent on the contrasts between that which is "within" the city and that which will come from "elsewhere." Successful policies, however, must acknowledge the existence of both of these spaces. From within, Berlin must continue to leverage its technical and

engineering talent, while using education and training to encourage skilled Germans to look towards more non-traditional paths of business and career development. Government organizations can also do more to collaborate with already-established entrepreneurs and incubators, as this will allow for development that remains mindful of Berlin's entrepreneurial culture and also synthesizes proven methods for success. Finding the tenuous balance of hip and free-spirited culture alongside proven business plans will not be an easy task, meaning that policymakers and funders must leverage the resources provided by key innovators who have already impacted the scene greatly.

While Berlin's startup culture cannot be constructed around international models that do not account for its own history and culture, there are still lessons to be learned from successes and failures of hubs such as Silicon Valley, London, and New York's Silicon Alley. Coworking and "café culture" models have been successful for networking relationships, but Berlin must now discern how to begin infusing some of the "culture of failure" that acknowledges failure potential but accepts it as a necessity for innovation and creativity. A reliance on foreign investment may not be sustainable for Berlin in the long-run, but its nascent scene will definitely benefit from large-scale foreign investors as it seeks to increase its global presence and produce larger company exits and IPOs. By making the city more welcoming to non-German entrepreneurs, it can hope to generate a new "hype" that is more sustainable and founded in results.

VII. Conclusions

Following the fall of the Berlin Wall in 1989 and subsequent German Reunification in 1990, a series of economic and social shifts comprised Germany's

history throughout the 1990s and early 2000s. The merging of capitalist and socialist economic systems, coupled with the increasing globalization of the international economy, subsequently brought changes in labor market decisions and participation for many Germans. Using data from the German Socioeconomic Panel, as well as popular media literature, this paper analyzes self-employment trends and the effects of social capital from 1986 to 2014 using economic regression analysis and sociological content and discourse analyses.

Regression analysis conducted using six waves of the G-SOEP data set showed several interesting trends in regards to predictors of entrepreneurship. Self-employment variables were used as proxies for entrepreneurship in probit regressions, and each year's models provided evidence that those who are self-employed are on average more likely to be older, male, German-born, and highly educated or trained. For most of the waves of regression analysis, those who were self-employed in their first job were highly likely to be self-employed at the time of the survey, but this trend has become less pronounced over time, perhaps indicating a changing profile of a German entrepreneur.

Political affiliations appear to provide significant social capital for self-employed individuals, and levels of political interest have become even more important for entrepreneurs in recent years. Additionally, high work satisfaction and willingness to take risks, as well as ability to control decision-making and on-the-job learning, are strong and significant indicators of self-employment. Higher household income on average indicates that one is more likely to be self-employed, though this trend has reversed in recent years for wages. Additionally, regressions run for the immigrant subsamples of the G-SOEP show that those with strong command of the German language have higher

entrepreneurial propensity, and those who wish to remain in Germany permanently are less likely to choose self-employment as a labor market option. Opportunities for future research using this data set and these regression models are numerous. Many measures of social capital (i.e. sense of membership in the local community, living standards, relationships with relatives) were not significant in this sample. Expanding the survey population or developing new models for contemporary data could help show how such aspects of social capital are affecting modern entrepreneurial decisions.

The sociological analysis of popular media highlights the contrasts between the successes of entrepreneurial culture in contemporary Berlin and the realities of funding and networking difficulties in its current entrepreneurial environment. Its countercultural image, combined with adaptation of technology within its startup industries, makes it attractive for young entrepreneurs who want to take advantage of this alternative lifestyle. But this subculture of Berlin also has negative implications of exclusivity, and government policy does not appear to be encouraging venture capital investment or mentorship, or to be inspiring international entrepreneurs to relocate. Future policies regarding entrepreneurship in Berlin will therefore need to reconcile the culture within the city with the economic and international forces outside of it in order to develop sustainable and productive models of entrepreneurship.

Acknowledgements

I would like to express my deepest appreciation to my senior thesis advisor, Professor Christopher Baum of the Boston College Economics Department. He has continually supported my project and dedicated his time to assisting me with my statistical and economic research. In addition, thank you to Professors Christopher Maxwell and Robert Murphy of the Economics Department for their organization and mentorship in the Senior Honors Thesis seminars during the 2013-2014 academic year.

Several other professors in various departments have provided invaluable guidance with this project: Professor Juliet Schor and Ph.D. Candidate Luka Carfagna of the Boston College Sociology Department, who have assisted with sociological research methodology; Professor Michael Resler of the Boston College German Studies Department, who originally sparked my interest in Germany and has helped greatly with historical and linguistic context; Professor Tracy Regan of the Boston College Economics Department, whose Industrial Organization course has expanded my study of entrepreneurship; and Professor Fr. James Keenan, SJ, and Jennie Thomas of the Presidential Scholars Program, who have provided their continued support.

In addition, I would like to thank the faculty of DIW Berlin, especially Dr. Ulrich Kohler (currently of WZB), Dr. Jan Goebel, Dr. Dorothea Schäfer and Uta Rahmann, for allowing me to access to the German Socioeconomic Panel. The codes they have developed and the questions they have answered for me have been instrumental for my data work. Finally, thank you to my family, friends, and classmates who have supported me throughout my academic endeavors at Boston College. Without the support of all of these individuals, this project would not have been possible.

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Table 1: Self-Employment in 1986

Self-Employed in 1986	Frequency	Percentage
No	9,615	95.68
Yes	434	4.32
Total	10,049	100.00

Table 2: Self-Employment in 1991

Self-Employed in 1991	Frequency	Percentage
No	12,376	95.95
Yes	523	4.05
Total	12,899	100.00

Table 3: Self-Employment in 1996

Self-Employed in 1996	Frequency	Percentage
No	12,153	95.39
Yes	587	4.61
Total	12,740	100.00

Table 4: Self-Employment in 2001

Self-Employed in 1986	Frequency	Percentage
No	20,056	94.85
Yes	1,090	5.15
Total	21,146	100.00

Table 5: Self-Employment in 2006

Self-Employed in 1986	Frequency	Percentage
No	19,835	93.74
Yes	1,325	6.26
Total	21,160	100.00

Table 6: Self-Employment in 2011

Self-Employed in 1986	Frequency	Percentage
No	18,860	94.30
Yes	1,141	5.70
Total	20,001	100.00

Table 7: Regression Models: Self-Employment in 1986

Self-Employed 1986	(1)	(2)	(3)	(4)	(5)	(6)
	Base Case	**Employment**	**Politics**	**Social**	**Income**	**Immigrant**
Age in 1986	0.0007	0.0021	0.0004	0.0004	0.0002	0.0010
	(0.0001)***	(0.0003)** *	(0.0001)***	(0.0001)***	(0.0001)*	(0.0002)***
Gender						
Female	-0.0156	-0.0002	-0.0163	-0.0212	0.0014	0.0029
	(0.0041)***	(0.0071)	(0.0063)**	(0.0060)***	(0.0037)	(0.0076)
Nationality						
Born in Germany	0.0084	0.0140	-0.0048	-0.0074	-0.0028	-0.0195
	(0.0048)*	(0.0078)*	(0.0105)	(0.0154)	(0.0041)	(0.0126)
Amount of Education or Training in Years	0.0070	0.0095	0.0057	0.0055	0.0013	0.0051
	(0.0008)***	(0.0016)***	(0.0012)***	(0.0013)***	(0.0007)*	(0.0018)***
Age at First Job		-0.0019				
		(0.0012)*				
First Job Self-Employed		0.4208				
		(0.0470)***				
Number of Job Changes						
One		0.0108				
		(0.0081)				
Two or More		0.0078				
		(0.0092)				
Work Satisfaction						
Somewhat		0.0258				
		(0.0283)				
Moderately		0.0183				
		(0.0258)				
Very		0.0203				
		(0.0256)				
Unemployed in Previous Year		-0.0156				
		(0.0155)				
Political Interests						
Weak			-0.0020			
			(0.0126)			
Strong			0.0084			
			(0.0137)			
Very Strong			0.0149			
			(0.0172)			

Self-Employed 1986	(1)	(2)	(3)	(4)	(5)	(6)
	Base Case	**Employment**	**Politics**	**Social**	**Income**	**Immigrant**
Political Party Supported (SPD=Base)						
CDU/CSU			0.0713			
			(0.0070)***			
FDP			0.0717			
			(0.0219)***			
Green			0.0243			
			(0.0114)**			
Other			0.0144			
			(0.0313)			
Amount of Support for Political Party						
Fairly Weak			-0.0280			
			(0.0331)			
Moderate			-0.0236			
			(0.0306)			
Fairly Strong			-0.0200			
			(0.0309)			
Very Strong			-0.0245			
			(0.0316)			
Highest School Degree Received by Father (Secondary= Base Case)						
Intermediate				-0.0075		
				(0.0098)		
Upper Secondary				-0.0046		
				(0.0115)		
Other				0.0209		
				(0.0403)		
Highest School Degree Received by Mother (Secondary=Base Case)						
Intermediate				0.0515		
				(0.0155)***		
Upper Secondary				0.0361		
				(0.0232)		
Other				0.0206		
				(0.0450)		

Self-Employed in 1986	(1)	(2)	(3)	(4)	(5)	(6)
	Base Case	**Employment**	**Politics**	**Social**	**Income**	**Immigrant**
Wages in 1986					0.0024	
					(0.0020)	
Household Post-Government Income 1986					0.0004	
					(0.0001)***	
Household Income from Asset Flows 1986					0.0005	
					(0.0002)**	
Individual Labor Earnings 1986					-0.0004	
					(0.0003)	
Sense of German Nationality						
Do Not Feel Very German						0.0095
						(0.0104)
Feel Partly German						0.0129
						(0.0088)
Feel Mostly German						0.0054
						(0.0149)
Feel Fully German						0.0179
						(0.0235)
German Language Skills						
Fair						0.0110
						(0.0073)
Good						0.0265
						(0.0093)***
Very Good						0.0531
						(0.0189)***
Observations	9882	5320	4904	5801	5436	2232

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Regression Models: Self-Employment in 1991

Self-Employed in 1991	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Base Case	Employ.	Politics	Parents	Relatives	Standards	Friends	Income	Immigrant
Age in 1991	0.0006	0.0024	0.0004	0.0018	0.0004	0.0006	0.0009	0.0001	0.0007
	(0.0001)***	(0.0004)***	(0.0001)***	(0.0003)***	(0.0001)***	(0.0001)***	(0.0003)***	(0.0001)	(0.0002)***
Gender									
Female	-0.0208	-0.0027	-0.0228	-0.0338	-0.0269	-0.0210	-0.0406	-0.0063	-0.0137
	(0.0035)***	(0.0078)	(0.0077)***	(0.0067)***	(0.0060)***	(0.0040)***	(0.0096)***	(0.0025)**	(0.0071)*
Nationality									
Born in Germany	0.0059	0.0211	0.0141			0.0120		-0.0035	-0.0151
	(0.0046)	(0.0087)**	(0.0169)			(0.0093)		(0.0033)	(0.0111)
Amount of Education in Years	0.0051	0.0072	0.0048	0.0042	0.0030	0.0055	0.0030	0.0011	0.0043
	(0.0007)***	(0.0018)***	(0.0015)***	(0.0012)***	(0.0012)**	(0.0008)***	(0.0019)	(0.0005)**	(0.0019)**
Age at First Job		-0.0010							
		(0.0013)							
Self Employed First Job		0.3356							
		(0.0556)***							
Number of Job Changes									
One		0.0054							
		(0.0092)							
Two or More		-0.0038							
		(0.0103)							
Work Satisfaction									
Somewhat		-0.0006							
		(0.0465)							
Moderately		-0.0135							
		(0.0449)							
Very		0.0061							
		(0.0449)							
Unemployed Previous Year		0.0037							
		(0.0246)							
Political Interests									
Strong			0.0065						
			(0.0089)						
Very Strong			0.0022						
			(0.0127)						

Self-Employed in 1991	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Base Case	Employ.	Politics	Parents	Relatives	Standards	Friends	Income	Immigrant
Political Party Supported (SDP=Base Case)									
CDU/CSU			0.0413						
			(0.0078)***						
FDP			0.0990						
			(0.0243)***						
Greens			0.0124						
			(0.0151)						
Amount of Support for Polit. Party									
Fairly Weak			0.0170						
			(0.0425)						
Moderate			0.0108						
			(0.0383)						
Fairly Strong			0.0073						
			(0.0384)						
Very Strong			0.0030						
			(0.0400)						
Nature of Relationship with Mother									
Average				0.0173					
				(0.0331)					
Close				0.0108					
				(0.0330)					
Very Close				-0.0262					
				(0.0329)					
Nature of Relationship with Father									
Average				-0.0352					
				(0.0269)					
Close				-0.0284					
				(0.0283)					
Very Close				0.0088					
				(0.0341)					
Have Relatives in Another Part of Germany					-0.0054				
					(0.0149)				

Self-Employed in 1991	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Base Case	Employ.	Politics	Parents	Relatives	Standards	Friends	Income	Immigrant
Relationship with Relatives									
Fleeting					0.0040				
					(0.0135)				
Average					0.0317				
					(0.0151)**				
Close					-0.0066				
					(0.0113)				
Very Close					0.0140				
					(0.0162)				
Know Persons who Moved to West									
Yes, Close Relations					-0.0157		-0.0199		
					(0.0081)*		(0.0131)		
Yes, Good Friends					0.0186		0.0123		
					(0.0130)		(0.0160)		
Yes, Coworkers					-0.0257		-0.0346		
					(0.0080)***		(0.0128)***		
Regional Standard of Living									
Moderate						-0.0015			
						(0.0123)			
Good						0.0083			
						(0.0124)			
Very Good						0.0187			
						(0.0131)			
Standard of Living in Old FRG									
Moderate						-0.0078			
						(0.0426)			
Good						-0.0194			
						(0.0421)			
Very Good						-0.0253			
						(0.0421)			
Standard of Living in Old GDR									
Moderate						0.0032			
						(0.0052)			
Good						0.0029			
						(0.0072)			
Very Good						-0.0015			
						(0.0182)			

Self-Employed in 1991	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
	Base Case	**Employ.**	**Politics**	**Parents**	**Relatives**	**Standards**	**Friends**	**Income**	**Immigrant**
Sense of Local Community									
Not Much						-0.0196			
						(0.0152)			
Strong						-0.0197			
						(0.0147)			
Very Strong						-0.0140			
Intentions of Moving within Germany						(0.0151)			
Already Moved						-0.0022			
						(0.0386)			
Probably Not						-0.0087			
						(0.0054)			
Yes, Depending on Situation						-0.0033			
						(0.0055)			
Yes, Very Much						-0.0138			
						(0.0132)			
Relationship with Friends									
Average							0.0302		
							(0.0108)***		
Close							0.0311		
							(0.0137)**		
Very Close							0.0291		
							(0.0218)		
Wages in 1991								-0.0013	
								(0.0018)	
Household Post-Govt. Income 1991								0.0002	
								(0.0001)*	
Household Income Asset Flows 1991								0.0003	
								(0.0002)*	
Individual Labor Earnings 1991								0.0000	
								(0.0002)	

Self-Employed in 1991	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
	Base Case	**Employ.**	**Politics**	**Parents**	**Relatives**	**Standards**	**Friends**	**Income**	**Immigrant**
Sense of German Nationality									
Do not feel Very German									-0.0060
									(0.0109)
Feel Partly German									-0.0031
									(0.0098)
Feel Mostly German									-0.0165
									(0.0114)
Feel Very German									-0.0029
German Language Skills									(0.0198)
Fair									0.0017
									(0.0078)
Good									0.0234
									(0.0099)**
Very Good									0.0411
									(0.0163)**
Observations	12707	4368	3469	3894	3867	10308	2012	5046	2043

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Regression Models: Self-Employment in 1996

Self-Employed in 1996	(1)	(2)	(3)	(4)	(5)	(6)
	Base Case	**Employment**	**Politics**	**Parents**	**Social**	**Income**
Age in 1996	0.0006	0.0017	-0.0000	0.0025	0.0006	0.0002
	(0.0001)***	(0.0003)***	(0.0001)	(0.0004)***	(0.0001)***	(0.0001)
Gender						
Female	-0.0294	-0.0283	-0.0314	-0.0321	-0.0324	-0.0067
	(0.0037)***	(0.0066)***	(0.0070)***	(0.0069)***	(0.0037)***	(0.0033)**
Nationality						
Born in Germany	0.0147	0.0277	0.0247	0.0114	0.0196	-0.0016
	(0.0044)***	(0.0080)***	(0.0089)***	(0.0084)	(0.0042)***	(0.0040)
Amount of Education or Training in Years	0.0062	0.0074	0.0042	0.0052		
	(0.0007)***	(0.0016)***	(0.0013)***	(0.0013)***		
Age at First Job		0.0001				
		(0.0013)				
Self-Employed First Job		0.2409				
		(0.0508)***				
Number of Job Changes						
One		0.0046				
		(0.0079)				
Two or More		0.0128				
		(0.0097)				
Work Satisfaction						
Somewhat		0.0263				
		(0.0199)				
Moderately		0.0306				
		(0.0180)*				
Very		0.0375				
		(0.0180)**				
Unemployed in Previous Year		-0.0145				
		(0.0125)				
Political Interests						
Strong			0.0195			
			(0.0079)**			
Very Strong			0.0281			
			(0.0146)*			

Self-Employed in 1996	(1)	(2)	(3)	(4)	(5)	(6)
	Base Case	Employment	Politics	Parents	Social	Income
Political Party Supported (SDP=Base Case)						
CDU/CSU			0.0396			
			(0.0075)***			
FDP			0.1335			
			(0.0362)***			
Alliance/Green			0.0407			
			(0.0125)***			
PDS			0.0124			
			(0.0139)			
Republican			0.0411			
			(0.0337)			
Other			0.0034			
			(0.0298)			
Amount of Support for Political Party						
Fairly Weak			0.0098			
			(0.0351)			
Moderate			0.0055			
			(0.0312)			
Fairly Strong			0.0056			
			(0.0315)			
Very Strong			0.0222			
			(0.0347)			
Nature of Relationship with Mother						
Average				-0.0498		
				(0.0504)		
Close				-0.0819		
				(0.0512)		
Very Close				-0.0678		
				(0.0524)		
Nature of Relationship with Father						
Average				-0.0069		
				(0.0221)		
Close				0.0166		
				(0.0239)		
Very Close				-0.0029		
				(0.0243)		
Sense of Local Community						
Not much					-0.0032	
					(0.0113)	
Strong					-0.0061	
					(0.0109)	
Very Strong					0.0018	
					(0.0114)	

Self-Employed in 1996	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Base Case	**Employment**	**Politics**	**Parents**	**Social**	**Income**
Intentions of Moving within Germany						
Probably Not					-0.0023	
					(0.0050)	
Yes, Depending on the Situation					0.0056	
					(0.0052)	
Yes, Very Much					0.0065	
					(0.0135)	
Wages in 1996						0.0016
						(0.0018)
Household Post-Govt. Income in 1996						0.0003
						(0.0001)***
Household Income from Asset Flows 1996						-0.0001
						(0.0001)
Individual Labor Earnings 1996						-0.0004
						(0.0003)
Observations	12409	6136	4653	4306	12285	7106

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table 10: Regression Models: Self-Employment in 2001

Self-Employed in 2001	(1)	(2)	(3)	(4)	(5)	(6)
	Base Case	**Employment**	**Politics**	**Parents**	**Income**	**Immigrant**
Age in 2001	0.0003	0.0010	-0.0003	0.0028	0.0001	0.0006
	(0.0001)***	(0.0005)*	(0.0001)***	(0.0003)***	(0.0001)**	(0.0004)*
Gender						
Female	-0.0332	-0.0219	-0.0253	-0.0457	-0.0043	-0.0268
	(0.0031)***	(0.0089)**	(0.0055)***	(0.0065)***	(0.0021)**	(0.0160)*
Nationality						
Born in Germany	0.0141	0.0147	0.0247	0.0109	0.0041	-0.0075
	(0.0043)***	(0.0134)	(0.0080)***	(0.0091)	(0.0022)*	(0.0279)
Amount of Education or Training in Years	0.0067	0.0024	0.0048	0.0083	0.0014	0.0027
	(0.0006)***	(0.0021)	(0.0010)***	(0.0012)***	(0.0004)***	(0.0032)
Age at First Job		0.0045				
		(0.0018)**				
First Job Self-Employed		0.0920				
		(0.0514)*				
Job Changes		-0.0103				
		(0.0093)				
Age at Most Recent Occupational Change		0.0012				
		(0.0006)*				
Work Satisfaction						
Somewhat		0.0150				
		(0.0494)				
Moderately		0.0082				
		(0.0473)				
Very		-0.0087				
		(0.0472)				
Unemployed in Previous Year		0.0123				
		(0.0196)				
You Can Decide How to Complete Tasks at Work						
Applies Partially		0.0413				
		(0.0066)***				
Applies Completely		0.1747				
		(0.0105)***				

Self-Employed in 2001	(1)	(2)	(3)	(4)	(5)	(6)
	Base Case	Employment	Politics	Parents	Income	Immigrant
You Often Learn Something New at Work						
Applies Partially		0.0150				
		(0.0119)				
Applies Completely		0.0473				
		(0.0130)***				
Received Education or Training on the Job in 2000		-0.0190				
		(0.0229)				
Political Interests						
Strong			0.0096			
			(0.0060)			
Very Strong			0.0353			
			(0.0107)***			
Political Party Supported (SDP= Base Case)						
CDU/CSU			0.0568			
			(0.0061)***			
FDP			0.1343			
			(0.0222)***			
Alliance/ Green			0.0272			
			(0.0093)***			
PDS			0.0187			
			(0.0119)			
Republican			0.0454			
			(0.0311)			
Other			0.0125			
			(0.0257)			
Amount of Support for Political Party						
Fairly Weak			-0.0007			
			(0.0373)			
Moderate			-0.0227			
			(0.0345)			
Fairly Strong			-0.0206			
			(0.0347)			
Very Strong			-0.0273			
			(0.0358)			

Self-Employed in 2001	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Base Case	**Employment**	**Politics**	**Parents**	**Income**	**Immigrant**
Nature of Relationship with Mother						
Average				0.0325		
				(0.0220)		
Close				0.0380		
				(0.0217)*		
Very Close				0.0137		
				(0.0217)		
Nature of Relationship with Father						
Average				-0.0148		
				(0.0236)		
Close				-0.0346		
				(0.0236)		
Very Close				0.0075		
				(0.0260)		
Wages in 2001					-0.0029	
					(0.0010)***	
Household Post-Government Income in 2001					0.0002	
					(0.0001)***	
Household Income from Asset Flows 2001					-0.0001	
					(0.0001)	
Individual Labor Earnings 2001					0.0000	
					(0.0001)	
German Language Skills						
Fair						0.0045
						(0.0186)
Good						0.0321
						(0.0216)
Very Good						0.0556
						(0.0281)**
Wish to Remain in Germany						0.0165
						(0.0307)
Observations	20127	4280	7877	6298	10316	609

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11: Regression Models: Self-Employment in 2006

Self-Employed in 2006	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
	Base Case	**Employment**	**Politics**	**Income**	**Immigrant**
Age in 2006	-0.0000	0.0032	-0.0004	0.0000	0.0004
	(0.0001)	(0.0003)***	(0.0001)***	(0.0001)	(0.0003)
Gender					
Female	-0.0369	-0.0378	-0.0450	-0.0036	-0.0396
	(0.0034)***	(0.0069)***	(0.0056)***	(0.0022)*	(0.0093)***
Nationality					
Born in Germany	0.0148	0.0336	0.0017	0.0042	0.0124
	(0.0052)***	(0.0102)***	(0.0111)	(0.0025)*	(0.0130)
Amount of Education or Training in Years	0.0089	0.0112	0.0074		0.0109
	(0.0006)***	(0.0016)***	(0.0010)***		(0.0017)***
Age at First Job		0.0007			
		(0.0013)			
First Job Self-Employed		0.2563			
		(0.0398)***			
Number of Job Changes					
One		0.0121			
		(0.0080)			
Two or More		0.0067			
		(0.0094)			
Work Satisfaction					
Somewhat		0.0441			
		(0.0198)**			
Moderately		0.0430			
		(0.0177)**			
Very		0.0525			
		(0.0177)***			
Unemployed in Previous Year		0.0004			
		(0.0139)			
Willingness to Take Risks					
Moderate		0.0041			
		(0.0139)			
High		0.0358			
		(0.0137)***			
Very High		0.1294			
		(0.0175)***			
Job Education or Training		0.0323			
		(0.0281)			

Self-Employed in 2006	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
	Base Case	**Employment**	**Politics**	**Income**	**Immigrant**
Political Interests					
Strong			0.0132		
			(0.0065)**		
Very Strong			0.0187		
			(0.0094)**		
Political Party Supported (SDP= Base Case)					
CDU/CSU			0.0461		
			(0.0060)***		
FDP			0.1136		
			(0.0168)***		
Alliance/Green			0.0608		
			(0.0107)***		
PDS			-0.0039		
			(0.0094)		
Republican			-0.0359		
			(0.0128)***		
Other			0.0289		
			(0.0297)		
Amount of Support for Political Party					
Fairly Weak			-0.0188		
			(0.0360)		
Moderate			0.0031		
			(0.0339)		
Fairly Strong			0.0024		
			(0.0340)		
Very Strong			0.0144		
			(0.0355)		
Wages in 2006				-0.0027	
				(0.0011)**	
Household Post-Government Income 2006				0.0001	
				(0.0000)***	
Household Income from Asset Flows 2006				-0.0001	
				(0.0001)**	
Individual Labor Earnings 2006				0.0000	
				(0.0001)	
Wish to Remain in Germany Permanently					-0.0022
					(0.0104)
Observations	19935	8180	9089	9982	2090

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 12: Regression Models: Self-Employment in 2011

Self-Employed in 2011	(1)	(2)	(3)	(4)	(5)	(6)
	Base Case	**Employment**	**Politics**	**Social**	**Income**	**Immigrant**
Age in 2011	-0.0003	0.0025	-0.0010	-0.0003	-0.0003	-0.0001
	(0.0000)***	(0.0006)***	(0.0001)***	(0.0000)***	(0.0000)***	(0.0002)
Gender						
Female	-0.0301	-0.0258	-0.0280	-0.0298	-0.0298	-0.0223
	(0.0034)***	(0.0110)**	(0.0057)***	(0.0034)***	(0.0034)***	(0.0108)**
Nationality						
Born in Germany	0.0045	0.0281	-0.0047	0.0045	0.0045	-0.0128
	(0.0057)	(0.0167)*	(0.0119)	(0.0058)	(0.0058)	(0.0135)
Amount of Education or Training in Years	0.0087	0.0118	0.0072	0.0086	0.0086	0.0085
	(0.0006)***	(0.0024)***	(0.0010)***	(0.0006)***	(0.0006)***	(0.0020)***
Age at First Job		0.0021				
		(0.0021)				
First Job Self-Employed		0.0806				
		(0.0492)				
Job Changes		-0.0040				
		(0.0115)				
Age at Most Recent Job Change		0.0012				
		(0.0008)				
Work Satisfaction						
Somewhat		0.0830				
		(0.0207)***				
Moderately		0.0771				
		(0.0154)***				
Very		0.1235				
		(0.0156)***				
Unemployed in Previous Year		-0.0393				
		(0.0199)**				
Willingness to Take Risks						
Moderate		-0.0230				
		(0.0229)				
High		0.0202				
		(0.0229)				
Very High		0.0815				
		(0.0295)***				
Received Education or Retraining on the Job 2011		-0.0416				
		(0.0389)				

Self-Employed in 2011	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Base Case	**Employment**	**Politics**	**Social**	**Income**	**Immigrant**
Political Interests						
Strong			0.0150			
			(0.0064)**			
Very Strong			0.0330			
			(0.0098)***			
Political Party Supported (SDP=Base Case)						
CDU/CSU			0.0334			
			(0.0065)***			
FDP			0.1034			
			(0.0203)***			
Alliance/Greens			0.0234			
			(0.0078)***			
PDS			0.0150			
			(0.0112)			
Republicans			0.0173			
			(0.0274)			
Other			0.0101			
			(0.0254)			
Amount of Support for Political Party						
Fairly Weak			0.0211			
			(0.0445)			
Moderate			-0.0231			
			(0.0411)			
Fairly Strong			-0.0232			
			(0.0412)			
Strong			0.0033			
			(0.0426)			
Number of Close Friends				0.0006		
				(0.0002)***		
Wages in 2011					-0.0017	
					(0.0007)***	
Wish to Remain in Germany Permanently						-0.0343
						(0.0154)**
Observations	19024	3327	7906	18586	9037	1649

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 13: Sociological Code Tree for Dedoose Analysis

- **I. Artistic and Cultural**
  - *a. Counterculture*
    - i. "Hipster"
    - ii. "Bubble"
    - iii. "Hype"
  - *b. Startup Culture*
    - i. Networking
      - 1. Key Innovators
      - 2. Mentorship
    - ii. Coworking
    - iii. Specific Startups
    - iv. Risk Aversion
    - v. Training
  - *c. Comparison Cities*
- **II. German Regard**
  - *a. Geography*
  - *b. Government Involvement*
  - *c. Cost of Living*
- **III. International Regard**
  - *a. Non-German Entrepreneurs*
  - *b. Future Optimism*
  - *c. Future Pessimism*
    - i. Reservations
- **IV. Foster Growth**
  - *a. Business Lifecycle*
    - i. Futuristic-looking
    - ii. Retention of startups
    - iii. Market Sizing
    - iv. New Economy
  - *b. Education*
    - i. University Sponsorship
  - c. *Monetization and Funding*
    - i. Venture Capital
  - d. *Technology Adoption*
    - i. Technology Talent